Claims

1. Process for deposition of a silver film on a substrate, consisting in carrying out a deposition of silver by CVD on said substrate using a silver precursor solution, characterized in that:

- the silver precursor is a silver carboxylate RCO_2Ag in which R is a linear or branched alkyl radical that has 3 to 7 carbon atoms, used in the form of a solution in an organic liquid;
- the concentration of precursor in the solution is between 0.01 and 0.6 mol/l;
- the organic liquid comprises an amine and/or a nitrile, and optionally a solvent whose evaporation temperature is less than the decomposition temperature of the precursor;
- the percentage by volume of the amine and/or the nitrile in the organic liquid is more than 0.1%.

2. Process according to claim 1, wherein the silver precursor is the silver pivalate $(CH_3)_3$-C-CO_2Ag.

3. Process according to claim 1, wherein the solvent is an organic compound that is liquid at ambient temperature and up to about 200°C under normal pressure conditions.

4. Process according to claim 3, wherein the solvent is selected from among mesitylene, cyclohexane, xylene, toluene and n-octane.

5. Process according to claim 1, wherein the amine is a monoamine that is selected from among n-hexylamine, isobutylamine, disec-butylamine, triethylamine, benzylamine, ethanolamine and diisopropylamine.

6. Process according to claim 1, wherein the amine is a polyamine.

7. Process according to claim 1, wherein the nitrile is selected from among acetonitrile, valeronitrile, benzonitrile and propionitrile.

8. Process according to claim 1, wherein the substrate is formed by a material that is selected from among the superconductive high T_c materials, the ceramics, the thermoresistant polymers, the glasses, MgO, $LaAlO_3$, Ni, Si, AsGa, InP, SiC and SiGe.

9. Process according to claim 1, wherein the temperature of the substrate to be coated is between 200 and 450°C.

10. Process according to claim 1, wherein it is implemented under an oxygen atmosphere or under a hydrogen atmosphere.

11. Process according to claim 1, wherein a cold plasma is added around the substrate.